



THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION

Meeting Minutes for February 12, 2004

Members in Attendance:

Karl Honkonen	Designee, EOE
Marilyn Contreas	Designee, DHCD
Glenn Haas	Designee, DEP
Gerard Kennedy	Designee, DAR
Mark Tisa	Designee, DFG
Joe McGinn	Designee, DCR
Joe Pelczarski	Designee, CZM
Richard Butler	Public Member
Bob Zimmerman	Public Member

Others in Attendance:

Linda Marler	DCR
Michele Drury	DCR
Vicki Gartland	DCR
Sara Cohen	DCR
Peter Weiskel	USGS
Gene Parker	USGS
Dave Armstrong	USGS
Todd Richards	DFG
Eileen Simonson	WSCAC
Margaret Kearns	Riverways
Moises Pariente	Aquaria
John Murphy	HMA
Jeff Hanson	HMA
Stephen Pike	Brockton Water Commission
Tirone Emilio	Inima
Thomas Plouffe	City of Brockton
David Norton	City of Brockton
John Condon	City of Brockton
Liz Beardsley	CDM
Susan Speers	WAA
James Marshall	Plainville Water Department
Lee Ross	Plainville Water Department
Dave Harwood	Dufresne-Henry
Ralph Abele	EPA
Juan Pablo Diaz Batanero	Aquaria
Betsy Shreve-Gibb	Metcalf & Eddy

Ginger Croom	CDM
Dick Laramie	CDM
Pine DuBois	JRWA
Robert W. Davis	TRWA
Phillips Brady	DMF
Dave DeLorenzo	DEP SERO
Tom Lamonte	DEP
Kerry Mackin	IRWA
John Torgon	Save the Bay
Jack Yunits	City of Brockton
Brian Creedon	City of Brockton

Agenda Item #1: Executive Director's Report

Marler provided an update on the hydrologic conditions:

- January was a dry month, but this is not too worrisome because December had been such a wet month. There has only been an inch and half of rain during the month of January, which is 41% of normal. This is a bit of concern for surface water reservoirs which need to be filled over the winter. If February is dry, this could lead to concerns
- There is not much of snow pack in Massachusetts or New Hampshire. The snow pack received in December has eroded. It was very cold in January, too cold to snow.
- Ground water levels are still in the normal range with a few small areas of above normal water table. One area in southeastern Massachusetts has a below normal water table.
- Streamflow has been normal throughout the state. Streamflow has been in decline since December, so we will be keeping an eye on this.
- Water supply reservoir levels are mostly where they should be for this time of year, with the exception of Taunton's reservoir, which is lower than normal for this time of year. This might be due to some construction and measurement errors, resulting from ice on the reservoir.
- Fire danger levels have recently increased to moderate. This is unusual for this time of year because usually there is a snow cover. Fire danger levels will fluctuate based on recent precipitation events, relative humidity, temperature and wind speed. We will be keeping an eye on this.
- Forecasts are for dry to normal precipitation for the remainder of February. No storms are in the forecasts for the next seven days. The seasonal forecast for March, April and May indicate an equal chance for below normal, above normal, or normal conditions.

Honkonen and Staff made some announcements:

- The Secretary's Water Policy Task Force will bring together the agencies and other water related interests to look at how water is managed in the state. A list of potential members has been refined and initial calls have been made to invite people to participate. The goal is to convene shortly and have recommendations by end of fiscal year (6/30).
- An outside section of the budget reduced the number of public members from 6 to 5. About 12 applications for the vacant seats were received. Honkonen has met with the Secretary to discuss these candidates. Background checks are being conducted and it is hoped that recommendations will be submitted to the Governor's office soon.

- Sara Cohen reported that the water assets project has received pilot reports for the first four towns from the consultant. These are in the process of being revised. Half of the remaining communities have been interviewed to gather information needed for the remaining reports. Things are moving on schedule at the community report level. The next step is to craft the watershed level analysis. Staff will be seeking input from the technical advisory committee to decide how to integrate this on the regional level. The TAC also is trying to decide on the scope of the next phase, after completing the Interstate 495 corridor and how this should translate to other areas of the state. The effort also is to move to the development of water budgets to get the full picture, including wastewater. The next phase may include data collection for wastewater. The Secretary's office and OCD are starting to be interested in this project and are asking how the outcome relates to smart growth policies. Staff is working to address the Administration's interests.

Simonson asked how the water assets project relates to the streamflow group. Honkonen stated that ultimately the intersection of streamflow and water budgets and the lands identified in the water assets project will be looked at to develop policies surrounding these issues.

Agenda Item #2: Discussion of the Staff Recommendation on Plainville's Interbasin Transfer Application

Drury acknowledged the representatives from Plainville.

Drury recapped the project. Plainville is developing a wellfield on the shores of Lake Mirimichi in the Taunton River basin. The water will be used in town, but the town discharges its wastewater at the North Attleboro treatment plant, which is actually in Attleboro in the Ten Mile River Basin. The project is jurisdictional under the Act because water will cross a basin line and a town line. Plainville has existing wells in both the Ten Mile and Taunton River basins. The capacities of these wells have been reduced due to volatile organic compounds (VOCs). The combined capacity of the Lake Mirimichi wellfield is 0.4 mgd.

The differences between the January Staff Recommendation and the current Staff Recommendation were explained. The Staff Recommendation has been updated to reflect the fact that the Plainville Water Commission adopted the drought management plan and the large user water conservation plan on January 14th. One of the comments given at the public hearing was that this area could benefit from some sort of a coordinating entity, such as the Canoe River Aquifer Advisory Committee. The WRC doesn't have the authority to require this, but the current Staff Recommendation urges the communities get together to discuss water resources and other issues within the Wading River subbasin. This expands the previous recommendation that Plainville and Attleboro work together, as Attleboro controls the levels at Lake Mirimichi. Last month Gary Clayton suggested that the threshold points be surveyed in, in case something happens to the dam. This has been incorporated.

A public hearing on the Staff Recommendation was held on January 15th. It wasn't as well attended as the first hearings held on the application, but the comments were more germane to the ITA. Some of the comments received have been incorporated into the current Staff Recommendation, including that weekly monitoring might not be appropriate to catch the daily variations that may occur in lake level. Staff went back to check the data and decided it was appropriate to amend the conditions under Criterion #5 to reflect this concern. This will be

discussed further. This morning, Glenn Haas forwarded some language to refine these conditions. Most of the public comments supported the Staff Recommendation. Copies of written comments are in Appendix A. A written response to these comments will be provided at the next meeting.

Marler presented the environmental impacts analysis. The wellfield consists of three gravel-packed wells in a relatively shallow sand and gravel aquifer, 20 -30 feet deep and 250 feet from Lake Mirimichi. A pumping test was conducted in July 1997 and approved by DEP for a combined safe yield of 400,000 gpd. These are not really big producing wells. Lake Mirimichi is relatively sizable. Attleboro supplements its public water supply as needed with water from Lake Mirimichi. Water is released through a valve at the dam into the Wading River and withdrawn downstream. Releases are made when Blake's Pond, Attleboro's downstream reservoir, is at a certain level. Attleboro's operating regime has nothing to do with levels at Lake Mirimichi. Attleboro provided weekly water level measurements at Lake Mirimichi. The City has been measuring these levels since 1990. Lake Mirimichi is shallow on the northwest side (5 ft deep), but the eastern side is about 15 ft deep. During the low precipitation events which occurred in the 1990's, there were drawdowns of Lake Mirimichi by Attleboro. Plainville used this data to simulate flows under various scenarios. In a normal precipitation year, only 1/10th of a foot of drawdown would be expected in Lake Mirimichi. This seemed reasonable, however because of all the vagaries with Attleboro's use, Staff determined that this should go through full ITA review, rather than a Request for a Determination of Insignificance.

Plainville analyzed four different scenarios of water withdrawal to describe impacts to Lake Mirimichi levels and outflow to the Wading River. Data was analyzed on a monthly timestep because the Lake Mirimichi won't have much of a daily impact on water levels. Also, Attleboro's patterns of releases from Lake Mirimichi were quite erratic. In some cases, summer flows were the highest of the year because of Attleboro's manipulation of releases from Lake Mirimichi. Basically there is not that much change under any use scenario to the annual hydrograph. There is a good seasonal hydrograph. Under normal precipitation conditions, the depth of water in the lake is not impacted, even with use by both Attleboro and Plainville. The number of days water would be below top of dam was insignificant. There was a very small reduction in the volume of the lake and very small surface water perimeter reductions. This was acceptable.

However, during dry periods, the analyses showed that some protections would be needed. In a drier year overall flows are lower, lake levels decline, and some conditions would be unacceptable with both Attleboro and Plainville using the lake. Thresholds have been recommended for cut-back and shut-offs to prevent these impacts. The Staff Recommendation restricts well use so as not to exacerbate the impacts already being made by Attleboro. This should prevent the situation from getting worse. We have no control over what Attleboro is doing under this process.

As mentioned, Staff further reviewed the data to address the comment that weekly threshold monitoring would not be adequate. We concluded that there were times that weekly monitoring would cause thresholds to be missed, so we felt it would be appropriate to change this to daily monitoring from May through December, but weekly monitoring would be adequate for January through April. If Plainville can enter into a written agreement with Attleboro to be notified before releases would be made, weekly monitoring would be adequate, except for those periods

when Attleboro was releasing from Lake Mirimichi or when water levels were 1.5 feet below the dam.

Kennedy asked if Attleboro was interested in entering into any agreements with Plainville. Marler replied that Attleboro has sent people to the public hearings, but has not provided comments. Marshall stated that Plainville was waiting for Attleboro to complete some administrative transitions before the town starts to negotiate with the City. Attleboro has a new mayor and the DPW superintendent took early retirement. Plainville will be contacting Attleboro as soon as things have settled in the City. Laramie requested a copy of the Staff Recommendation on behalf of Attleboro.

Simonson asked if any minimum streamflow releases were required to the Wading River and the size of Lake Mirimichi. Marler answered that staff had not found any required minimum releases. Drury explained that Attleboro is operating under WMA registration, not a permit, so DEP has not required any minimum releases or streamflow requirements. Simonson asked if any habitat assessment was done downstream. Staff worked with Fisheries staff and asked for their concerns. Fisheries didn't have any major concerns with this withdrawal. Lake Mirimichi is 170 acres. The watershed is 12 square miles and the lake holds 330 mg.

Davis asked how much riverine reach there is from the spillway to next impoundment and if the Wading River goes dry. Marshall responded that the Wading River hasn't gone dry in 52 years. Davis stated that a stream gage should be placed in the river and asked whether Attleboro's registration can it be revisited. Drury stated that the WRC had no authority over Attleboro under the ITA at this point in time. Haas stated that in 2008 all WMA registrations would for that watershed. The Attleboro registration can be revisited at that time.

A vote will be requested next month.

Agenda Item #3: Discussion of the Staff Recommendation on Brockton's Interbasin Transfer Application

Drury acknowledged Mayor Yunits and Brockton's representatives, as well as representatives from Inima, Aquaria's parent company, and Dave DeLorenzo, from DEP's Southeast Regional Office.

Drury summarized the status of the IBT application before the WRC, saying it is part of the overall application for the Aquaria project. In August of last year, the WRC approved Aquaria's compliance with the environmental criteria of the Interbasin Transfer Act. At that time, the Commission stated that as communities filed their Notice of Project Change (NPC), their portion of the Aquaria IBT application would be reviewed according to the memo approved by the WRC in March 1996. This is what has been done here. The source of water is the tidal estuarine portion of the Taunton River, which by definition is the Massachusetts Coastal basin. Brockton is located in Taunton River basin, in the non-tidal area. We consider this to be a transfer from Massachusetts Coastal basin to the Taunton River Basin.

Brockton is proposing to purchase a maximum of 7.5 mgd from the Aquaria project. The contract under the first phase is for 4.0 mgd, but the ITA regulates the total capacity. Brockton has an option to purchase an additional 1 mgd during first phase and up to an additional 2.5 mgd if the plant expands to its full capacity, which was approved under the ITA at 10 mgd.

A public hearing was held on March 21st. It was fourth public hearing in conjunction with the Aquaria project. Most oral comments were in support of the project. Some comments addressed issues that are beyond the jurisdiction of the ITA, such as economic growth, job creation and Brockton's withdrawals from Silver Lake. Copies of written comments are in Appendix B of the Staff Recommendation.

This application is being evaluated against the water supply criteria of the Act in accordance with the March 1996 memo:

- **Criterion #1**, MEPA compliance, was not addressed in the March 1996 memo because at that time, the Secretary was not requiring Notices of Project Change from the communities which would purchase water from the project. Brockton filed an NPC with MEPA, as required by Secretary's certificate on the Aquaria project, in October 2003. On December 8th, the Secretary issued a certificate on the NPC stating that no further MEPA review was necessary. This criterion has been met.
- **Criterion #2**, viable local sources: Brockton has been searching for alternative sources since the 1960's. The Staff Recommendation goes into more detail on this, but the City has been looking at a water sharing agreement with the town of Hanson. The WMA permit for this project is under appeal. The source can't be used pending the outcome of appeal. Brockton investigated a non-estuarine diversion of the Taunton River in the mid-1990's. This was abandoned because of potential environmental impacts. This was included in the Strategy for Meeting the Water Supply Needs of Brockton and Other Taunton River Basin Communities Through the Year 2020 developed by the WRC and EOE in 1993. The Strategy recommended that if this in-basin source were not viable, Brockton would need to pursue a reliable out-of-basin source to meet its long-term water supply needs. Two options that were suggested in the Strategy and considered by Brockton were connection to the MWRA or the Aquaria project. The WRC does not direct a community to one out-of-basin source over another. Any source reviewed by the WRC under the ITA will need to meet the criteria of the Act. Brockton decided that it was in its best interest to pursue Aquaria; therefore, that is the source that has been evaluated and approved for compliance with the environmental criteria of the Act in August 2003. WRC staff has worked very closely with DEP staff on Brockton issues for many years. So, in close consultation with DEP and with what we know from our work with the City, Staff recommends that Brockton has met this criterion.
- **Criterion #3**, water conservation: Brockton's conservation program meets all of the 1992 Water Conservation Standards and most of the 1999 Performance Standards. It does not meet the Performance Standard for 10% unaccounted-for water, however, within the Performance Standards, there is a clause which states that in certain cases, local conditions may prevent a proponent from meeting a standard, even after all substantial efforts have been taken. Staff has been working with Brockton to determine if the City has taken all substantial efforts. They've recently changed over the billing system so that the entire city is billed at the same time. Brockton has also undertaken an extensive pipe replacement program. They are eliminating old lines that are prone to leaks. The City is in the process of replacing all of its customer meters with meter interface units or radio read meters to allow for more efficient meter reading, and the City is in the process of converting from a manual leak detection system to a digital system. In addition to the conservation standards required by the WRC's guidance, Brockton also has instituted a process whereby new applications for water service can be modified by the Brockton

Water Commission to minimize water use. The City reserves the right to refuse service to water-intensive uses. Brockton has stringent restrictions on outdoor water use. The Brockton Water Commission determines the water ban phase approximately every two weeks, based on seasonal reservoir levels, average water demand, and meteorological conditions. When allowed, outdoor water use is through hand-held hoses only. Sprinklers are not permitted at anytime in Brockton. Staff recommends that Brockton has met this criterion.

- **Criterion #4, Watershed Management:** Brockton's current sources are surface water sources so this criterion is applicable. The City currently manages its watersheds for water quality purposes, rather than water quantity purposes. The City leaves forest lands in the natural state to filter runoff, so many of the forestry management practices outlined in the Performance Standards for cutting to increase yield are not relevant to this situation. The City conducts regular foot patrols to check for illegal dumping. They have a program of dam maintenance. Brockton works cooperatively with the appropriate municipalities, because their water supply sources are not within the City of Brockton, to protect water supply land. Staff recommends that this criterion has been met. Staff also recommends that Brockton prioritize DEP's recommendations in the recently completed SWAP study and implement them as part of the Forestry Management Plan.
- **Criterion #7, Local Water Resources Management Plan:** This was provided in the NPC. Drury distributed copies of the plan to the WRC. The plan addresses the issues outlined in the Performance Standards and is consistent with other plans the WRC has approved. Staff will be asking that the WRC approve this plan at next month's meeting. Staff also is suggesting that the Local Water Resources Management Plan and the forestry management plan be combined as one document to provide a comprehensive description of Brockton's water supply management issues.

Another issue considered during this review was the interbasin transfer status of Whitman and Hanson with respect to Brockton's proposed purchase. Staff consulted with legal counsel on this. Both Whitman and Hanson have rights to receive water from Brockton. Their connections are grandfathered under the ITA. If the towns increase the capacity of those connections, the ITA will be triggered at some level. If they make separate agreements with Aquaria, this will be treated as a separate ITA review. The towns will need to file an NPC with MEPA, which will be reviewed for ITA issues in accordance with the March 1996 memo. Another issue brought up was use of Silver Lake. The Silver Lake system is grandfathered under the ITA. Control of Brockton's releases is beyond the WRC's jurisdiction, unless Brockton increases the capacity there. In addition, Brockton is operating Silver Lake under the terms of an Administrative Consent Order issued by DEP. It is staff's opinion that purchase of water from Aquaria will give the City more flexibility and redundancy and allow them to lessen the impacts on all of their water supply sources, including Silver Lake. Staff is recommending that Brockton develop an operating plan for all of its sources to balance water supply need with environmental needs and offering our assistance if the city requests it.

Honkonen invited Mayor Yunits to speak. Yunits thanked the WRC and staff for all the assistance given to the City. He stated that this is the time to move on this proposal. Yunits considers Brockton to be a pioneer in this field. The desalinization plant will solve a significant regional water need. A study conducted by Mass Insight will be released shortly. It states that people in Massachusetts feel that a tremendous amount of progress has been made in protecting water supplies. Sixty percent of people polled said they would pay up to \$100 in additional fees

for cleaner water. This is what Brockton will be paying with this source. Avon's wellfield is in old industrial field near the Brockton border. A plume has developed that has the potential to impact Avon's wells, so Brockton is in the process of developing an emergency plan, just in case those wells have to be shut down. As sprawl continues, wells will be imperiled. Projects like the Aquaria desalinization plant are going to be necessary to protect people and the quality of life. This will insure the probability of better regulating flows from Silver Lake. Yunits stated that he hoped the WRC would approve the application.

Tisa asked about the WRC's lack of jurisdiction over Silver Lake under this review. Drury responded that Section 8C of the Interbasin Transfer Act gives the WRC jurisdiction over any *increase* over the present rate of interbasin transfer. Silver Lake has been used as a water supply by Brockton since the late 1800's. It was the Legislature's intent that the WRC had jurisdiction over new interbasin transfers, but not over existing ones. If Brockton were to increase capacity in the Silver Lake system, then the ITA would be triggered. But as long as they do not increase the capacity of the system, the WRC does not have jurisdiction. Tisa stated that there seems to be something missing in our criteria. What about waters in the receiving basin that have been impacted? We don't require anyone to address resources that may need to be restored. Drury replied that this was correct. The Act was not set up for restoration. The Act was designed to prevent damage to the donor basin rather than to the receiving basin. Tisa said that this would be an ideal opportunity to redress this situation in the receiving basin and asked if it was the Act or the regulations that needed to be changed. Drury stated that she'd check with legal, but suspected that it would need to be the Act that is amended. Tisa then asked if Brockton had responded to the offer of assistance with developing an operating plan. Drury referred the question to Brockton. Pike spoke for the Brockton Water Commission and said that they have had some preliminary discussions and although they appreciate this comment, they believe that this is outside the jurisdiction of ITA. Without this ITA approval, however, the stress on Silver Lake will only increase. This supply is not to replace Silver Lake but to provide for growth and development in Brockton, thus avoiding the sprawl that would occur in neighboring towns. Brockton is willing to discuss this further and develop an operating plan but is very protective of its registered rights.

Simonson stated that when the ITA was proposed, impacts in the receiving basin were proposed to be included. These included growth impacts, environmental impacts and the redress of past environmental grievances. We were unable to get it into the Act; therefore the emphasis has fallen on the Water Management Act. The ITA ended up being narrower than originally proposed, but the WMA has the opportunity, when registrations are reviewed, to look at the management of pre-existing withdrawals.

Dubois provided written comments and stated that the Staff Recommendation did not address all of JRWA and WAA's issues. She stated that if the Staff Recommendation, as written, is adopted by the WRC there will be damaging environmental consequences. She asked the WRC not to consider the existing transfer from Silver Lake as grandfathered and to take jurisdiction over this use. She stated that Brockton does not have a right to take water from Silver Lake without regard to the environmental consequences. JRWA and WAA think that the Aquaria and Brockton reviews should have been conducted simultaneously. She also stated that Brockton's efforts at watershed management have been inadequate.

Tisa again asked about the WRC's ability to require an operating plan for Silver Lake, noting that water resources management seems to be lacking in Brockton. Drury answered that the WRC's authority under this review is limited to reviewing the transfer from the donor basin, the Massachusetts Coastal Basin, to the Taunton River Basin. The WRC is limited in what it can require Brockton to do with its existing sources; however, Staff has offered assistance and will continue to work with DEP on these issues. DEP has authority over the use of Brockton's sources while it is under the ACO. Until Brockton gets a long-term reliable water supply source, they will be using their sources in accordance with the ACO. Tisa suggested that this is an item that could be added to the WRC work plan. He would like to see a plan addressing impaired resources managed by the community.

Spears asked about Whitman and Hanson and what level of increase would trigger ITA review. Drury answered that any increase in transfer triggers the ITA review, but the type of review would depend on the amount. If the amount was less than 1 mgd, the community could request a determination of insignificance, if it could demonstrate that the transfer would have no unacceptable environmental impacts. Otherwise, the transfer would need full review. Spears asked about the clause from the March 1996 memo that stated the WRC could determine that a particular transfer could have significant impacts. How would this be determined? Drury replied by giving the example of the Plainville transfer, which would be less than 1 mgd. There were sufficient concerns about potential impacts, so a full review was required. Spears requested that the WRC address what happens to other customers to which Aquaria may sell water. She has heard about water being wholesaled to communities in basins other than the Taunton. Drury stated any community purchasing water from Aquaria would be subject to the ITA because this would be a transfer from the Massachusetts Coastal basin to whatever land-based basin a community was located. Spears would like to WRC to go on the record as saying that whatever water that is withdrawn from this plant should be returned to the Taunton River, where it will be recycled, flowing past the intake in Dighton. No sales should be allowed unless other communities are involved in the process. This was originally proposed to be a regional supply. The Central Plymouth County Water District Commission is inactive. Spears suggested that this could be a regional policy mechanism for this project. She mentioned a CLF Ventures project proposed to develop a stakeholders' organization to do environmental mediation and come to consensus on issues of regional supply. Spears wants Brockton to meet with them.

Davis stated that the TRWA was doing a wild and scenic study funded by the National Park Service. The Aquaria intake is in a rare fresh water tidal marsh community. It has a great anadromous fish run. TRWA wants it to be protected.

Pelczarski asked if water from this plant is discharged anywhere in the entire Massachusetts Coastal basin, for example a community which discharged its wastewater to the MWRA, would it require ITA review? Drury answered no, but if the discharge was to a land-based basin, even if that basin was on the coast, it would.

Zimmerman pointed out that the fundamental engineering philosophy to solving water problems was simply wrong. The notion that Massachusetts is running out of water is entirely an engineering condition. Water is taken from a source as a commodity and piped miles away to where it is used and then thrown away someplace else. There is no reason for this to be done. These kinds of solutions perpetuate the problem. We have to abandon this and go in the

direction of making water behave as if we never built all this stuff. Then nobody will have a water resource problem.

McGinn asked DuBois about the source of the phosphorous information contained in her handout. She replied that ESS, a consulting firm, did a study on Silver Lake. The information was generated from that study.

Beardsley elaborated on Brockton's water resource protection efforts and cooperative efforts in towns where the water supply sources are located. Brockton spent over \$1 million updating the Avon Reservoir to reduce withdrawals on Silver Lake.

Drury stated that a vote to approve Brockton's compliance with the water supply management criteria of the ITA would be requested at next month's meeting. This represents Part 2 of the Aquaria decision. A written response to public comments will be provided at that time as well.

Agenda Item #4: Update – Office of Commonwealth Development

This item was postponed as McCarthy had a conflict.

Agenda Item #5: Presentation – Streamflow Standards for Massachusetts

Gartland stated that there would be two presentations on this: Dave Armstrong of USGS will present some highlights from the habitat report (the report will be coming out in March) and Richards will also talk about the work he's done.

Gartland gave a presentation (with printed handouts) on Instream Flow Standards in New England and the methods that have been used or proposed in each state. All of the New England states recognize the importance of the annual hydrograph; maintaining variability in streamflow; have revised the US Fish & Wildlife's New England Aquatic Base Flow (ABF) method to be more site or time specific; have provisions for an Instream Flow Incremental Method (IFIM) as an optional method of analysis; and are having difficulty with the politics of separating flow standards from existing withdrawals. Therefore, as Massachusetts progresses, we should focus on all aspects of the hydrograph, do the policy after the scientific assessment, and allow for broad public input. Next steps for Massachusetts will be to develop a Streamflow Standards Task Force to evaluate flow needs, conduct outreach, and hold public hearings on the recommended standards.

Armstrong and Richards gave a presentation (with printed handouts) on "Evaluation of Streamflow Requirements for Habitat Protection by Comparison to Streamflow Characteristics at Index Streamflow-Gaging Stations in Southern New England." This is the title of a USGS report that is in press. Pre-prints of the report were provided at the WRC meeting and would be provided for the next Streamflow Standards Task Force meeting. The report is expected for distribution in March. The study objectives were to analyze flow statistics at index gaging stations (un-impacted by human activities, to the least extent possible); evaluation of streamflow requirements; and to assess fish community composition at the index gages. There were very few gages within the Route 495 corridor that met the criteria for index gages. The fish communities found at the index gages were close in composition to the Target Fish Community that had been developed in other studies of Massachusetts rivers. The report describes the natural variability of streamflow within months and between years. Many streamflow statistics were developed in the study and are described in the report. Gages were separated into four

geographic regions and into two groups “high-flow” and “low-flow”, based on the percentage of sand and gravel in their basins. Various streamflow standard-setting methods were evaluated using the index gage data. These included Tennant, New England ABF; Range of Variability Approach, Wetted Perimeter, and R2Cross methods.

Mackin asked the Commission when the WRC will update its reference streamflows. There was some discussion of pending lawsuits and appeals related to Water Management Act permits.

Meeting adjourned

Meeting minutes approved 7/8/04